



Attorney Docket No.: 5655.204-US

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Pedersen et al. Confirmation No: 7651

Serial No.: 09/390,851 Group Art Unit: 1627

Filed: September 7, 1999 Examiner: Friend, Tomas H. F.

For: Enzyme Activity Screen With Direct Substrate Reloading

**AMENDMENT UNDER 37 C.F.R. 1.111**

Commissioner for Patents  
Washington, DC 20231

Sir:

In response to the Office Action mailed April 23, 2002, please amend the above-identified application as follows (a marked up version pursuant to 37 C.F.R. 1.21 is attached hereto):

**IN THE SPECIFICATION:**

Please replace the paragraph on page 19, line 21 to page 20, line 2 with:

Finally, in order to limit the time available to the catalysts for substrate turn-over, pulses of for example electricity or light may be applied during the selection. Appropriately separated pulses could create for example transient pH- or ionic gradients that would initiate the reaction substrate to product, performed by the catalyst. The pulses should be separated enough in time that it allows plenty of time for a catalyst in solution to become immobilized on a receptor before the pulse initiates the next reaction. In this way, the dead time of the selection performed in the column format (i.e. the time the catalyst spends diffusing from one receptor to the next) can be drastically reduced, and very high stringencies obtained.

Please replace the paragraph on page 20, lines 5-12 with:

For illustration, as a non-limiting example, it is preferably in cases where the reagent(s) cannot efficiently act on the immobilized product, but only on the free product, the affinity of the column for the product must be adjusted to establish an appropriate equilibrium between the unbound and bound product. However, the optimal selection stringency is obtained if the reagent(s) act on both free product and product immobilized on column.

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